

Title (en)  
Fluorescence microscope apparatus

Title (de)  
Fluoreszenzmikroskop

Title (fr)  
Microscope à fluorescence

Publication  
**EP 2037309 A3 20100113 (EN)**

Application  
**EP 08008298 A 20080430**

Priority  
• JP 2008069246 A 20080318  
• US 92723707 P 20070502

Abstract (en)  
[origin: US2008290293A1] To observe and analyze intermolecular interactions such as diffusion and/or binding behaviors of molecules in a sample in a reacting state against optical stimulation, while applying the optical stimulation to a desired region in the sample by irradiating stimulus light. There is provided a fluorescence microscope apparatus comprising: a fluorescence image-capturing optical system for capturing fluorescence images of a sample; a stimulus light-irradiation optical system which includes a scanner for applying optical stimulation to an optional region in the sample by irradiating stimulus light; a control unit which acquires temporal observation data by repeatedly capturing images using said image-capturing optical system while applying optical stimulation using the stimulus light-irradiation optical system; an analysis unit which analyzes intermolecular interactions through analysis of changes in fluorescence intensity caused by molecular fluctuations within a confocal volume with use of the temporal observation data; and a display unit which displays an analysis result from the analysis unit.

IPC 8 full level  
**G02B 21/00** (2006.01)

CPC (source: EP US)  
**G01N 21/6458** (2013.01 - EP US); **G02B 21/0076** (2013.01 - EP US); **G02B 21/16** (2013.01 - EP US); **G02B 21/367** (2013.01 - EP US); **G01N 2021/6417** (2013.01 - EP US); **G01N 2021/6423** (2013.01 - EP US)

Citation (search report)  
• [Y] EP 1617375 A1 20060118 - ZEISS CARL JENA GMBH [DE]  
• [Y] US 2005122579 A1 20050609 - SASAKI HIROSHI [JP]  
• [YD] MICHELLE A. DIGMAN: "Measuring Fast Dynamics in Solutions and Cells with a Laser Scanning Microscope", BIOPHYSICAL JOURNAL, vol. 89, no. 2, 30 August 2005 (2005-08-30), pages 1317 - 1327, XP002557976  
• [YD] PAUL W. WISEMAN: "Spatial mapping of integrin interactions and dynamics during cell migration by Image Correlation Microscopy", JOURNAL OF CELL SCIENCE, vol. 117, no. 23, 12 October 2004 (2004-10-12), pages 5521 - 5534, XP002557977

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US10379330B2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA MK RS

DOCDB simple family (publication)  
**US 2008290293 A1 20081127**; **US 7902523 B2 20110308**; EP 2037309 A2 20090318; EP 2037309 A3 20100113; JP 2008276191 A 20081113; JP 5354938 B2 20131127

DOCDB simple family (application)  
**US 11165908 A 20080429**; EP 08008298 A 20080430; JP 2008069246 A 20080318